

**BY ORDER OF THE COMMANDER
AIR FORCE MATERIEL COMMAND**



AIR FORCE INSTRUCTION 21-103

**AIR FORCE MATERIEL COMMAND
Supplement**

ADDENDUM B

17 AUGUST 2016

Maintenance

**EQUIPMENT INVENTORY, STATUS
AND UTILIZATION REPORTING
SYSTEM/F-15C/D MINIMUM
ESSENTIAL SUBSYSTEM LIST (MESL)**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFI 21-103_AFMCSUP, *Equipment Inventory, Status and Utilization Reporting*. It establishes guidance and assigns responsibility to provide AFMC Test Fleet aircraft status changes/updates in accordance with (IAW) current maintenance conditions and the developed MDS specific mission essential subsystem list (MESL). This instruction applies to all AFMC organizations that manage or perform maintenance on AFMC owned/possessed aircraft regardless of Air Force Specialty Code. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). This publication may be supplemented at any level, but all direct Supplements must be routed to the Office of Primary Responsibility (OPR) of this publication for coordination prior to certification and approval. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-2, T-3") number following the compliance statement. See AFI 33-360, Publications and Forms Management, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance

items. Send comments and suggested improvements to this instruction on AF Form 847, ***Recommendation for Change of Publication***, to HQ AFMC/A4MM, 462 Chidlaw Road, Wright-Patterson AFB OH 45433-5006.

These MESLs complement AFI 21-103, *Equipment Inventory, Status, and Utilization Reporting*. They apply to maintenance activities supporting AFMC test missions across AFMC.

SUMMARY OF CHANGES

This publication has been substantially revised to meet the intent of AFI 21-103 AFMCSUP; this Addendum must be reviewed in its entirety. The MESL is modified based on user inputs and has been updated to reflect current mission requirements. Additionally, removed Tier 1 (T-1) IAW AFI 33-360 dated 1 December 2015, MAJCOM level instruction will not Tier references above the MAJCOM waiver authority (e.g. Table 1. Tier Waiver Authorities, Tier T-1 may be used in publications at Departmental level only).

1. General. The MESL is the basis of status reporting IAW 21-103. MESLs lay the ground work for reporting the status of assigned/possessed AFMC test fleet aircraft and equipment supporting AFMC test missions. They list the minimum essential systems and subsystems that must work on test fleet aircraft to perform specifically assigned unit test, training, or other missions.

1.1. **Qualifying notes** are used to define system exceptions and help explain complex degraded mission systems.

1.2. It is understood that any aircraft or support equipment system or subsystem may be subjected to test or tested under a test scenario and/or are test dependent as directed by the test mission director. If identified by test mission director, those systems or subsystems, if not already identified by qualifying notes, must be operational to be considered FMC or PMC for that mission.

2. Reading the MESL. A MESL is read by comparing the systems stated by WUC column (column 2) against the Full Systems List (FSL) and all applicable Basic Systems List (BSLs) across the page (DTE - Developmental Test and Evaluation, DTS - Developmental Test Support, BFT/NT/TT - Training). Each unit's Design Operational Capability (DOC) statement determines applicability of BSL columns. The aircraft or equipment MESLs incorporate all AFMC assigned/possessed aircraft/equipment and therefore it is important to compare only the columns listed in the MESL which are applicable to the units assigned/possessed aircraft. For example, units with training (TF) coded aircraft would determine report status using only the FSL and TNG columns. Units with multiple coded aircraft will ensure status is reported using the MESL columns appropriate to the individual aircraft/equipment assignment code or type mission being flown.(T-2)

Table 1. F-15C/D Minimum Essential Subsystem Listing (MESL).

NO.	WUC	SYSTEM/SUBSYSTEM	FSL	BSL		
				DTE (see note 1)	DTS (see note 1)	BFT/NT/ TT
1.	11000	Airframe	X	X	X	X
2.	12000	Cockpit and Fuselage Compartments	X	X	X	X
3.	13000	Landing Gear	X	X	X	X
4.	14000	Flight Controls	X	X	X	X
5.	23000	Turbofan Power Plant	X	X	X	X
6.	24000	Auxiliary Power Plant	X	X	X	X
7.	41000	Air Conditioning/Pressurization	X	X 1	X 1	X1
8.	42000	Electrical Power Supply	X	X	X	X
9.	44A00	Exterior Lighting	X 2	X 2	X2	X2
10.	44B00/E	Interior Lighting/Caution Light Panel Assembly	X	X	X	X
11.	45000	Hydraulic System	X	X	X	X
12.	46000	Fuel System	X	X	X	X
13.	47000	Oxygen System	X	X	X	X
14.	49000	Miscellaneous Utilities	X	X	X	X
15.	51000	Instruments	X	X	X	X
16.	52000	Autopilot	X	X	X	X
17.	52A00	Control Augmentation System	X	X	X	X
18.	55000	Malfunction Analysis and Recording	X	X	X	X
19.	55A00/E	Built-in Test Display Group	X	X	X	X
20.	57000	Integrated Guidance and Flight Control System	X	X	X	X
21.	63AX	UHF/VHF Communications	X3, 13	X3, 13	X 3, 13	X3, 13
22.	63AV	UHF Communications Set	X4, 13	X4, 13	X4, 13	X4, 13
23.	63B00	Integrated CNI Control Set	X	X	X	X
24.	63C00	Intercommunication System	X5	X5	X5	X5
25.	65F00	IFF Interrogator Set	X	X	X	X
26.	65G00	IFF Transponder Set	X	X	X	X
27.	71B00	Direction Finder Group	X	X	X	X
28.	71C00	Instrument Landing Set	X	X	X	X
29.	71F00	Attitude Heading Reference Set	X6	X6	X6	X6
30.	71G00	Global Positioning System (EGI)	X7	X7	X7	X7
31.	71M00	Inertial Navigation System (RLG)	X	X	X	X
32.	71Q00	Fighter Data Link	X	X	X	X
33.	71Z00	Tactical Air Navigation Set	X	X	X	X
34.	74A/B/F/H	Radar Set	X	X	X	X

35.	74J00	Indicator Group OD-60/A (VSD)	X	X	X	X
36.	74K00	Heads Up Display Set	X	X	X	X
37.	74M00	MPCD	X	X	X	X
38.	74T00	Joint Helmet Mounted Cueing System	X8	X8	X8	X8
39.	74Z00	Digital Video Recorder System	X	X	X	X
40.	75000	Weapons Delivery	X	X9	X9	X9
41.	75H00	Gun System	X11	X11	X11	X11
42.	76A00/B	Radar Warning Receiver ALR-56 (A/C models)	X	X	X	X
43.	76C00	Interface Blanker	X	X	X	X
44.	76G00	Electronic Warfare Warning Set (ALQ-128) (Decommisioned)	X11	X11	X11	
45.	76H00/M	ALQ-135 Band 1, 2, and 3 (Decommisioned)	X10	X10	X10	X10
46.	76K00	Countermeasures Dispenser	X11	X11	X11	X11
47.	91000	Emergency Equipment	X	X	X	X
48.	97000	Explosive Devices and Components	X	X	X	X
49.		Instrumentation System {ATIS/(Mini-)AATIS}/m-CAIS	X11, 12	X11, 12	X11, 12	X11, 12
50.		Analog Data Recorder/High Speed Radar Solid State Recorders	X11, 12	X11, 12	X11, 12	X11, 12
51.		Digital Data Recorder (MARS 2/2E)/Solid State Data, Audio, & Video Recorders	X11, 12	X11, 12	X11, 12	X11, 12
52.		Telemetry System	X11, 12	X11, 12	X11, 12	X11, 12
53.		IRIG Time Set	X10, 11, 12	X10, 11, 12	X10, 11, 12	X10, 11, 12
54.		Flight Test Video Recorder	X11, 12	X11, 12	X11, 12	X11, 12
55.		TSPI (ARDS, GAINR)	X11, 12	X11, 12	X11, 12	X11, 12

Table 2. Qualifying Notes.

GENERAL: Rear cockpit system, Subsystems and components that do not effect front cockpit operations or safety of flight are not required to be operational.	
1.	Manual mode only required for PMC.
2.	As required by AFI 11-218. Strip lights and landing lights required as a minimum for PMC.
3.	After TCTO 1F-15-1500
4.	HAVE QUICK/Secure Voice if aircraft is equipped.
5.	Applies to D models only if both cockpits occupied.
6.	Before TCTO 1F-15-1314.
7.	After TCTO 1F-15-1314.
8.	After TCTO 1F-15-1379 and unit is equipped with JHMCS helmets.
9.	All eight (8) Aim-120 & (4) Aim-9 stations required for FMC. Any combination of six (6) Required for PMC.
10.	Internal ECM required for A and C models for FMC. If equipped: external ECM capability required for B and D models for FMC if external pods are available.
11.	Test dependent. As determined by test director based on mission objectives.
12.	If installed.
13.	If multiple like radio systems installed; at least one must operational.

DONALD E. KIRKLAND, Brigadier General, USAF
 Director of Logistics, Civil Engineering
 and Force Protection

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 11-218, *Aircraft Operations and Movement on the Ground*, 28 Oct 2011
AFI 21-101, *Aircraft and Equipment Maintenance Management*, 21 May 2015
AFI 21-103, *Equipment Inventory, Status and Utilization Reporting*, 26 Jan 2012
AFI 33-360, *Publications and Forms Management*, 1 Dec 2015
AFMAN 33-363, *Management of Records*, 1 Mar 2008
AFPD 21-1, *Air and Space Maintenance*, 29 Oct 2015

Prescribed Forms

There are no prescribed forms for this publication

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*, 22 Sep 2009

Abbreviations and Acronyms

AFMC—Air Force Materiel Command
BSL—Basic Systems List
CNI—Communication Navigation Indication
DOC—Design Operational Capability
DTE—Developmental Test and Evaluation
DTS—Developmental Test Support
ECM—Electronic Counter Measures
EGI—Embedded GPS/INS
FSL—Full Systems List
GPS—Global Positioning System
IAW—In Accordance With
IFF—Identification Friend or Foe
IMT—Information Management Tool
INS—Inertial Navigation System
JHMCS—Joint Helmet Mounted Cueing System
MDS—Mission Design Series
MESL—Minimum Essential Subsystem List
MPCD—Multi-Purpose Color Display

OPR—Office of Primary Responsibility

PMC—Partial Mission Capable

RLG—Inertial Navigation System

TCTO—Time Compliance Technical order

TNG—Training

UHF—Ultra High Frequency

VHF—Very High Frequency

VSD—Vertical Situation Display

WUC—Work Unit Code